UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,591	06/27/2003	James M. Sweet	D/A2555Q1	8445

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EXAMINER
HILLERY, NATHAN

ART UNIT	PAPER NUMBER
2176	

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *14 December 2005*.

2a) ☒ This action is **FINAL.**   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-15* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-15* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *14 December 2005* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   This action is responsive to communications: Amendment filed on 12/14/05.

2.   Claims 1 – 15 are pending in the case. Claims 1, 6 and 11 are independent.

3.   The objection to the Drawings has been withdrawn as necessitated by

amendment.

4.   The rejection of claims 1 – 15 under 35 U.S.C. 103(a) as being unpatentable has

been withdrawn as necessitated by amendment.

Claim Rejections - 35 USC § 101

5.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

6.   Claims 1 – 15 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter. The claims are simply methodologies for

assembling data and thus do not produce a concrete, useful, and tangible result.

7.   Further, to expedite a complete examination of the instant application the claims

rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth

below in anticipation of applicant amending these claims to place them within the four

statutory categories of invention.

Claim Rejections - 35 USC § 112

8.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

9.   Claims 1 – 15 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

10.   The term "typical" in claim 1 is a relative term which renders the claim indefinite.

The term "typical" is not defined by the claim, the specification does not provide a

standard for ascertaining the requisite degree, and one of ordinary skill in the art would

not be reasonably apprised of the scope of the invention. Consequently, the metes and

bounds of "not characteristic of typical intra-document links" are unclear.

11.   The term "typical" in claim 6 is a relative term which renders the claim indefinite.

The term "typical" is not defined by the claim, the specification does not provide a

standard for ascertaining the requisite degree, and one of ordinary skill in the art would

not be reasonably apprised of the scope of the invention. Consequently, the metes and

bounds of "not characteristic of typical intra-document links" are unclear.

12.   The term "typical" in claim 11 is a relative term which renders the claim indefinite.

The term "typical" is not defined by the claim, the specification does not provide a

standard for ascertaining the requisite degree, and one of ordinary skill in the art would

not be reasonably apprised of the scope of the invention. Consequently, the metes and

bounds of "not characteristic of typical intra-document links" are unclear.

13.   Regarding dependent claims 2 – 5, 7 – 10 and 12 – 15, the claims are rejected

for fully incorporated the deficiencies of the base claim(s) from which they depend.

Claim Rejections - 35 USC § 103

14.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

15.   Claims 1, 2, 4, 6, 7, 9, 11, 12, and 14 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Bharat et al. (US 6112203 A) and in further view of Earl (US

5924104 A).

16.   **Regarding independent claim 11,**

a.   Bharat et al. teach that *we locate pages that point to at least one of the*

pages in the start set 201. We call this set of pages the back set 202. With the

AltaVista search engine, "link:URL" queries can be used to identify back set

pages for each start set page. We add one node 212 to the n-graph 211 for each

page of the back set 202. Similarly, the pages pointed to by the start set 201 are

located. This can be done by fetching each start set page and extracting the

hyperlinks in each of the pages. The pages pointed to by the hyperlinks

constitute the forward set 203. Nodes for the forward set of pages are also

added to the n-graph 211. Thus, the input set of pages 204 includes the back,

start, and forward sets 201-203. The input set 204 includes pages which do not

directly satisfy the query, i.e., pages that do not include key words exactly as

specified in the query. However, these pages may be useful because they are

linked to pages of the start set. A larger n-graph 211 can be constructed by

repeating this process for the back and forward sets 202-203 to add more

indirectly linked pages. At this stage, the n-graph 211 has nodes 212 but no

edges. After we have constructed the nodes 212, we add the directed edges

213. If a link points to a page that is represented by a node in the graph, and

both pages are on different servers, then a corresponding edge 213 is added to

the graph 211. Nodes representing pages on the same server are not linked.

This prevents a single Web site with many self-referencing pages to unduly

influence the outcome. This completes the n-graph 211 (Column 4, line 61 –

Column 5, line 20), compare with **performing a page-level link analysis that**

identifies those hyperlinks on a page linking to a candidate document page

further comprising a methodology of: searching page data to create a list

of links in the document; analyzing each link in conjunction with each other

link in the list of links to identify link pairings; assembling link pairings in

order to form clusters of links; and, examining the links in the cluster of

links for locality; and, performing a recursive application of the page-level

link analysis to the linked candidate document page and any further nested

candidate document pages thereby identified, until a collective set of

identified candidate document pages is assembled.

b.   Bharat et al. do not explicitly teach **performing a document-level**

analysis that examines the collective set of identified candidate document

pages for grouping into one or more documents; examining the collective

set of identified candidate document pages to weed out links which have

properties that are not characteristic of typical intra-document links, to

provide a resultant set of identified candidate document pages; and

grouping the content found in the resultant set of candidate document

pages into a document representation for subsequent viewing or printing

of the given hyperdocument.

c.   However, Earl teaches that *a link display manager 300 is illustrated in*

functional block diagram form. The link display manager 300 includes a user

input processor 302 for processing user link selections as indicated at lines

labeled MOVING WITHIN CURRENT DOCUMENT and SELECTING NEW

DOCUMENT. The link display manager 300 includes a document parser 304 for

parsing each document and identifying links 202 and 204 and a display system

for defining predetermined screen element properties providing visual cues for

distinguishing the identified links 202 and 204. When a user provides an input

link selection to select a new document, the document parser 304 parses the

selected new document to identify intradocument links 202 and interdocument

links 204. The display system 306 processes the identified intradocument links

202 and interdocument links 204 for displaying distinctively the intradocument

links 202 and interdocument links 204 with predetermined visual cues to

differentiate the links 202, 204 (Column 2, line 59 – Column 3, line 9), compare

with **performing a document-level analysis that examines the collective set**

of identified candidate document pages for grouping into one or more

documents; examining the collective set of identified candidate document

pages to weed out links which have properties that are not characteristic of typical intra-document links, to provide a resultant set of identified candidate document pages; and grouping the content found in the resultant set of candidate document pages into a document representation for subsequent viewing or printing of the given hyperdocument.

d.   It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Bharat et al. with that of Earl because such a combination would provide the users of Bharat et al. with *an improved method and apparatus for displaying links on a user display interface in a computer system* (Column 1, lines 39 – 41).

17.   **Regarding dependent claims 12 and 14**, Bharat et al. teach that *we assign a similarity weight to each node 213 of the sub-graph 255. Various document similarity measuring techniques have been developed in Information Retrieval to determine the goodness of fit between a "target" document and a collection of documents. These techniques typically measure a similarity score based on word frequencies in the collection and a target document* (Column 6, lines 51 – 57), compare with **the step for analyzing each link further comprises determining a score for each link pairing, and the scoring is determined by a similarity criteria.**

18.   **Regarding claims 1, 2, and 4**, the claims incorporate substantially similar subject matter as claims 11 – 15 and are rejected along the same rationale.

19.   **Regarding claims 6, 7, and 9**, the claims incorporate substantially similar subject matter as claims 11 – 15 and are rejected along the same rationale.

20.   Claims 3, 5, 8, 10, 13, and 15 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Bharat et al. (US 6112203 A) and Earl (US 5924104 A) as applied to

claims above, and in further view of Min et al. (US 6633868 B1).

21.   **Regarding dependent claims 13 and 15**, neither Bharat et al. nor Earl explicitly

teach **the scoring is determined by a proximity criteria**, and **the scoring is

determined by a regularity criteria**. Min et al. teach that *For each document, i, a*

matrix D(i) is calculated in the same manner as the C-db, C. That is, the elements of the

square matrix are determined by the proximity and frequency of word pairs. (C is in fact

the summation of all D(i) matrices; thus both the C and D(i) may be pre-computed to

decrease retrieval times.) The elements on the diagonal may be set to zero so that only

relationships between word pairs are taken into account. Normalization factors may

also be applied to adjust for parameters such as document length, word pair frequency,

etc. The matrix product of D(i) and S (that is, an element-by-element multiplication,

followed by a summation of all elements to produce a scalar) computes a weight, W(i),

that correlates with the number and proximity of relevant word pairs found in each

document. The product should be limited to elements common to both matrices in order

to minimize the total number of computations. The final document ranking, R, is a

simple sorting of the weights from highest to lowest values: R=Sort[W] (Column 7, lines

38 – 55), compare with **the scoring is determined by a proximity criteria**, and **the**

scoring is determined by a regularity criteria. It would have been obvious to one of

ordinary skill in the art at the time of the invention to combine the combined invention of

Bharat et al. and Earl with that of Min et al. because such a combination would allow the users of Min et al. the benefit of a *computer-implemented method for improving query-based document retrieval using the vast amount of contextual information (i.e., information about the relationships between words) within the document collection to be searched* (Column 2, lines 61 – 65).

22.   **Regarding claims 3, 5, 8, and 10**, the claims incorporate substantially similar subject matter as claims 13 and 15 and are rejected along the same rationale.

Response to Arguments

23.   Applicant's arguments with respect to claims 1 – 15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

24.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

        A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of
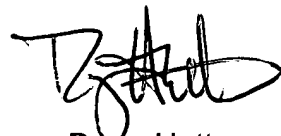
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Hillery whose telephone number is (571) 272-4091. The examiner can normally be reached on M - F, 10:30 a.m. - 7:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather R. Herndon can be reached on (571) 272-4136. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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NH